

a portable battery powered utilization device for operating from battery power during portable operation thereof;

battery means operatively coupled with said utilization device for supplying operating power thereto;

battery monitoring means operatively coupled with said battery means for monitoring battery parameters;

said utilization device together with said battery means and said battery monitoring means having a size and weight to be carried by an individual person;

said battery monitoring means comprising battery parameter sensing means for sensing battery parameters and comprising memory means operatively coupled with said battery parameter sensing means and operative for storing data based on said battery parameters, representative of available battery capacity;

means comprising said memory means for indicating remaining battery capacity;

said utilization device comprising data processing means operatively coupled with said battery means for operation from battery power; and

said battery monitoring means having data communication means operatively coupled with said data processing means of said utilization device, and providing for the transmission of data messages to said data processing means.

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171. A portable battery powered system comprising:

a portable battery powered utilization device;

a battery pack operatively coupled to the utilization device for supplying operating power thereto;

said utilization device together with said battery pack having a size and weight to be carried by an individual person;

said battery pack having battery circuitry for generating data based on battery parameters;

said utilization device having processor circuitry operatively coupled with said battery pack for operation from battery power; and

a communication link between the battery circuitry and the processor circuitry providing for the transmission of data based on battery parameters to the processor circuitry.

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172. The portable battery powered system of claim 171 wherein the battery circuitry includes a processor and an electronic memory device.

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173. A portable utilization device capable of battery powered operation, said utilization device comprising:

a rechargeable battery pack, said rechargeable battery pack having data communication circuitry;

a computer terminal device adapted to receive said rechargeable battery pack;

said computer terminal device together with said rechargeable battery pack having a size and weight to be carried by an individual person;

said computer terminal device having terminal processor circuitry for coupling with said rechargeable battery pack so as to enable operation thereof from battery power; and

said computer terminal device having a two-way communication link with said rechargeable battery pack providing for the transmission of messages between the battery pack and the terminal processor circuitry.

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174. A device as set forth in Claim 173, said device with said data communication link providing for the transmission of data and command messages.

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175. A device as set forth in Claim 173, said battery pack and said device having a coupling arrangement such that the communication link therebetween is automatically established when the battery pack is inserted into received relationship to said computer terminal device.

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176. A portable utilization device according to claim 173, wherein said battery pack is operative to transmit a message to said terminal processor circuitry via said communication link advising that a charging of said battery pack is in progress.

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177. A portable utilization device according to claim 173, wherein a battery discharge circuit is provided for enabling relative accurate measurement of battery capacity.

205 178. A portable utilization device according to claim 173,  
wherein said terminal processor circuitry is operative to send a  
message via said communication link to advise that a battery  
capacity measurement is to be initiated.

206 179. A portable utilization device according to claim 173,  
wherein said battery pack sends an interrupt to said terminal  
processor circuitry to advise of a selected condition of said  
battery pack.

207 180. A portable utilization device according to claim 179,  
wherein said battery pack measures battery capacity by effecting  
a discharge cycle, and maintains a record of battery capacity  
during subsequent battery operation of said computer terminal  
device so as to send an interrupt to said terminal processor  
circuitry in response to a selected condition related to  
remaining battery capacity.

208 181. A portable battery powered system, the system comprising:  
a battery powered utilization device;  
a battery pack having a positive voltage terminal, a  
negative voltage terminal and a data interface terminal;  
said battery powered utilization device adapted to receive  
said battery pack such that said battery pack provides  
operational power to said utilization device;

an electronic memory device being disposed within said battery pack which is powered by said battery pack for storing battery pack data;

said data interface terminal operably connected to said electronic memory device for communicating said battery pack data between said electronic memory device and said utilization device; and

a controller for writing said data to and reading said battery pack data from said electronic memory device.

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182. The portable battery powered system of claim 181 wherein said controller is operably disposed within said battery pack.

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183. The portable battery powered system of claim 181 wherein said controller is operably disposed within said utilization device.

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184. A portable utilization device capable of battery powered operation, said utilization device comprising:

a battery;

a computer housing adapted to receive said battery;

said computer housing together with said battery having a size and weight to be carried by an individual person;

said computer housing having computer processing circuitry for receiving power from said battery so as to enable portable operation of the utilization device;

a battery system coupled with said battery for monitoring battery parameters; and

a two-way communication link communicatively coupling said battery system to said processing circuitry thereby enabling said computer processing circuitry to receive information concerning said battery from said battery system.

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185. A portable utilization device according to claim 184, with said two-way communication link providing for the transmission of command messages from said computer processing circuitry to the battery system.

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186. A portable utilization device according to claim 185, with said battery system being responsive to a command message from said computer processing circuitry to transmit to the computer processing circuitry information concerning the status of the battery.

187. A portable utilization device according to claim 185, with said battery system being responsive to a command message from the computer processing circuitry to set a battery parameter at a specified value.

188. A portable utilization device according to claim 185, with said battery system being responsive to a command message to